REMARKS

Claims 22-40 and 42 are pending. Claims 22-26 and 42 are currently under examination, and claims 27-40 have been withdrawn from consideration because of a restriction requirement. Claims 22-24, 26 and 42 are rejected for obviousness over Guarna et al. (*J. Org. Chem.*, 1999, 64:7347-7364; hereafter "Guarna") or Cini et al. (*Eur. J. Org. Chem.* 2002, 873-880; hereafter "Cini").

Telephonic Interview

The undersigned thanks the Examiner and her supervisor for the telephonic interview on August 11, 2008. Applicants present herewith amendments and arguments commensurate with those discussed in the interview. In particular, claim 22 has been amended to require that the composition include a pharmaceutically acceptable excipient or diluent. This amendment finds support, for example, in now canceled claim 26.

Rejections Under 35 U.S.C. § 103

As discussed with the Examiner and her supervisor, both Guarna and Cini disclose compounds of formula (I) of claim 22, but only as synthetic intermediates that may in turn be used to synthesize compounds potentially having a therapeutic activity. M.P.E.P. § 2144.09 provides an appropriate legal standard for determining the patentability of active agents in view of intermediates. It states: "[I]f the prior art merely discloses compounds as intermediates in the production of a final product, one of ordinary skill in the art would not ordinarily stop the reference synthesis and investigate the intermediate compounds with an expectation of arriving at claimed compounds which have different uses." Here, the claimed compounds are

pharmaceutically active and not mere synthetic intermediates. To emphasize this point, claim 22 has been amended to require that the claimed composition include a pharmaceutically acceptable excipient or diluent, and one skilled in the art would understand that pharmaceutical grade solvents are not ordinarily employed in chemical synthesis. Accordingly, Applicants submit that the present claims are unobvious. A detailed discussion of each reference follows.

Guarna

As discussed, the present claims require compounds that are 3-aza-*2-oxo*-6,8-dioxabicyclo[3.2.1]octanes, some of which are referred to as BTAa(O) in Guarna (see Scheme 1). Guarna only teaches that the BTAa(O) compounds are materials for use in synthesizing BTAa compounds, i.e., 3-aza-6,8-dioxabicyclo[3.2.1]octanes (see page 7347, 2nd col.). Guarna further teaches that these BTAa compounds may "replace one or more amino acids in a bioactive peptide leading to modified structures possibly displaying more favorable pharmacological properties" (pg. 7347, 1st col.). That is, Guarna makes no claim that the BTAa compounds are active on their own.

With respect to claims 22-26, Applicants maintain that Guarna fails to teach or suggest a specific pharmaceutical utility for any of the disclosed compounds. Indeed, Guarna explicitly states: "BTAa could represent a novel class of dipeptide isosteres potentially useful for peptidomimetic synthesis" (page 7356, spanning 1st and 2nd cols.). Thus, in contrast to the assertion by the Office, Guarna does not teach that either the BTAa compounds or the BTAa(O) compounds are bioactive, merely that they are potential synthetic precursors to compounds of unknown activity. Accordingly, there is no reason of record for one skilled in the art to combine

a BTAa(O) with a pharmaceutically acceptable excipient or diluent. This position is consistent with the M.P.E.P., discussed above, and the rejection should be withdrawn.

Cini

Cini, like Guarna, describes the production of BTAa compounds, which "are useful compounds for the synthesis of peptidomimetics by insertion into biologically active peptides..." (page 873, 1st col.). Also like Guarna, Cini describes the use of 2-oxo forms of BTAa compounds to synthesize the BTAa compounds (see Scheme 2, page 874). These 2-oxo forms of BTAa compounds are thus synthetic intermediates to compounds that in turn are synthetic intermediates to potentially bioactive peptides. Cini therefore fails to teach or suggest any pharmaceutical activity for the 2-oxo forms of BTAa or the BTAa compounds themselves.

Applicants acknowledge that the Office has asserted that the reference teaches a composition of compound 8 (a 2-oxo compound) in ethanol (page 875, 1st col.). The reference does not, however, teach that the ethanol employed in this composition was of a quality or purity suitable for pharmaceutical use, and synthetic reactions are typically not performed in such solvents. Accordingly, compound 8 dissolved in ethanol for synthesis does not teach or suggest the claimed pharmaceutical compositions.

Finally, the Office states: "Cini et al. teach that the compounds [are] precursors of compounds with pharmaceutical utility, and bioactive compounds are routinely formulated as pharmaceutical compositions for administration in therapeutic methods," and relies on this general statement to show motivation for combining a 2-oxo compound with a pharmaceutically acceptable excipient or diluent. As noted above, however, Cini does not teach that the 2-oxo compounds are bioactive, or even that the BTAa compounds, which they are employed to make,

are bioactive. Accordingly, there is no reason why one skilled in the art would combine such compounds, described as precursors, with a pharmaceutically acceptable excipient or diluent (M.P.E.P. § 2144.09) to produce a pharmaceutical composition, as recited in claim 22.

With respect to claim 42, the compounds identified by the Office as disclosed in Cini have been deleted, and this rejection may also be withdrawn.

CONCLUSION

Applicants submit that the amended claims are in condition for allowance, and this action is respectfully requested. Enclosed is a petition to extend the period for reply for three months, to and including September 11, 2008. If there are any additional charges or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

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